Applicant(s)/Patent under R examination Application/Control No. Index of Claims MATSUNAGA ET AL. 10/501,888 Art Unit Examin r J. Pasterczyk 1755 (Through numeral) Cancelled R jected Non-Elected App al Ν Α o Allowed Restricted Interference Objected

|          |          | Γ-       |          |          |          | _        |           |        |              |          | _         | .:.1 |      | <del>.</del> | _  |          |          |                   |               |  |                   |       |        | ,        |               |           |  |                 |              |          |               |
|----------|----------|----------|----------|----------|----------|----------|-----------|--------|--------------|----------|-----------|------|------|--------------|--|----------|----------|-------------------|---------------|--|-------------------|-------|--------|----------|---------------|-----------|--|-----------------|--------------|----------|---------------|
| Cla      | aim      |          |          | _        | ,        | Dat      | te        | _      | _            | _        | _         |      | Cla  | aim          | <del>                                     </del> |          |          | Date              | 9             |  |                   | 1.41  | Cl     | aim      |               |           |  | Date            | <del>}</del> |          |               |
| Final    | Original | 50/9     |          |          |          |          |           |        |              |          |           |      | Fina | Original     |  |          |          |                   |               |  |                   |       | Final  | Original |               |           |  |                 |              |          |               |
|          | 1        | 7        |          | T        |          | T        | T         | 7      | T            | 7        |           |      |      | 51           | $\Box$   | $\neg$   | $\neg$   | $\top$            | $\Box$        | _  |                   |       |        | 101      | $\top$        | 1         | T  | П               | $\neg$       | $\neg$   |               |
|          | 2        | П        | T        |          | T        |          | 1         | 1      | T            | 寸        |           | ::   |      | 52           | $\Box$   | 丁        | 丁        | 1                 | $\Box$        | $\top$   |                   |       |        | 102      | 十             | $\top$    | Ť  |                 |              |          |               |
|          | 3        | П        | T        | 一        | T        | T        | 1         |        | 十            | 寸        |           |      |      | 53           | $\vdash$   | 十        | _        | 1                 | $\Box$        |  |                   |       |        | 103      |               |           | T  |                 |              | $\neg$   |               |
|          | 4        | П        |          | Г        |          | T        | Ť         |        | 十            | 寸        |           |      |      | 54           | $\Box$   | 十        | ┪        | 1                 | П             | ┪  | T                 |       | _      | 104      | $\top$        | $\top$    | 1  |                 | $\neg$       | $\neg$   | _             |
|          | 5        | J        | 1        | ┢        |          | T        | +         |        | 1            | 寸        |           |      |      | 55           | П  | 十        | $\dashv$ | 1                 | $\Box$        | 十一   | t                 |       |        | 105      |               | 1         |  | П               |              | $\dashv$ |               |
|          | 6        | _        |          | Н        |          | 1        | 1         | _      | +            | $\dashv$ |           |      |      | 56           | П  | T        | $\dashv$ | $\top$            |               | $\top$   |                   |       |        | 106      |               | 1         |  | П               |              |          | _             |
| _        | 7        |          | $\vdash$ | Г        | $\vdash$ | 1        | †         | 1      | $\top$       | $\top$   |           |      |      | 57           |  |          | _        |                   |               |  | T                 |       |        | 107      |               | 1         | t  |                 |              | _        | _ <u>†</u> _  |
|          | 8        | $\vdash$ | $\vdash$ | $\vdash$ | ✝        | 1        | 1         | $\top$ | +            | $\dashv$ |           |      |      | 58           | $\Box$   | _        | _        | 1                 |               | 1  |                   |       |        | 108      |               | 1-        | ✝  | $\Box$          |              | 7        | _             |
|          | 9        | $\vdash$ | $\vdash$ | _        | $\vdash$ | T        | 1         | 十      | $\top$       | 十        | ╗         |      |      | 59           | $\Box$   | T        | $\top$   |                   |               | <del>                                     </del> | $\vdash$          |       |        | 109      | $\top$        | $\top$    |  |                 |              |          |               |
|          | 10       |          |          |          | T        | T        | 1         | T      | Ť            | T        | $\neg$    |      |      | 60           |  | 7        | $\neg$   | T                 | $\Box$        | _  |                   |       |        | 110      |               | 1         | t  |                 |              | 1        | ╅             |
|          | 11       | Γ        |          | Τ        | Τ        | T        | T         | $\top$ | $\top$       | $\top$   | ᅥ         |      |      | 61           | $\Box$   | $\dashv$ | 1        | 1                 |               | 1  |                   |       |        | 111      |               | $\top$    |  |                 |              | $\neg$   | $\top$        |
| -        | 12       |          | Γ        | Π        | Г        | T        | Τ         | $\top$ | $\top$       | T        |           |      |      | 62           | $\Box$   | $\neg$   | $\neg$   | $\top$            |               | $\dashv$   | П                 |       |        | 112      | $\neg$        | $\top$    | $\top$   | $\Box$          |              | $\top$   | $\top$        |
|          | 13       |          |          | Г        | Г        | T        | T         | 1      | $\top$       | $\dashv$ | ┪         |      |      | 63           | $\sqcap$   | $\neg$   | $\top$   | T                 |               | $\top$   |                   |       |        | 113      | $\neg \vdash$ | $\top$    | 1  |                 |              | _        | $\top$        |
|          | 14       |          | T        |          |          | T        | $\top$    | 十      | $\top$       | $\top$   |           |      |      | 64           | $\Box$   |          | 1        |                   |               | 1  | П                 |       |        | 114      | $\top$        | T         | 1-   | П               | T            | $\neg$   | $\top$        |
|          | 15       | _        |          |          | 1        | 1        | $\top$    | $\top$ | $\dagger$    | $\top$   | ┪         |      |      | 65           | $\Box$   |          | $\top$   | $\top$            |               | 1  | П                 |       |        | 115      | $\neg$        | 1         | 1  |                 |              | $\dashv$ | $\dashv$      |
|          | 16       | _        | Г        |          | 1        | $\top$   | 1         | 十      | 1            | $\dashv$ |           | - 11 |      | 66           | $\Box$   | $\dashv$ |          |                   |               | 1  | П                 |       |        | 116      | _ _           | 1         | T  | П               | $\dashv$     | $\dashv$ | $\top$        |
|          | 17       |          | $\vdash$ |          | T        |          | $\top$    | $\top$ | T            | $\neg$   |           |      |      | 67           | $\Box$   |          |          | T                 |               | $\top$   |                   |       |        | 117      |               | 1-        | T  |                 |              | 1        | $\top$        |
|          | 18       |          |          |          |          |          | T         | ✝      | T            | T        | $\neg$    |      |      | 68           |  | 7        | $\neg$   | 1                 | o             | ┪  | П                 |       |        | 118      | $\top$        | +         | T  |                 |              |          | _             |
|          | 19       |          |          |          |          |          | T         | ✝      | T            | T        |           |      |      | 69           |  | T        | _        | 1                 | _             | 1  |                   |       |        | 119      | $\dashv$      | 1         | T  |                 |              |          | _             |
|          | 20       |          | $\vdash$ | _        | 1        | T        | $\top$    | ✝      | T            | 寸        | $\neg$    |      |      | 70           | $\Box$   | T        | ┪        | $\top$            | $\neg \vdash$ | 1  |                   |       |        | 120      |               | 1         | ✝  |                 |              | _        | $\neg$        |
|          | 21       | $\vdash$ |          |          |          | T        | ✝         | ╅      | T            | 寸        |           |      |      | 71           |  | 十        | _        | 1                 |               | 1  |                   |       |        | 121      | $\neg$        | 1         | T  |                 | 寸            | _        | 十             |
|          | 22       | $\vdash$ |          |          |          | T        | $\top$    | 十      | 1            | $\dashv$ |           |      | -    | 72           |  | $\neg$   |          |                   |               |  |                   |       |        | 122      | $\dashv$      | 1         | 1  |                 |              | _        | $\neg \vdash$ |
|          | 23       |          |          |          |          | T        | Τ         | 十      | T            | $\top$   |           |      |      | 73           |  | $\neg$   | 一        |                   |               | 1  | П                 |       |        | 123      | $\neg$        | 1-        | 1  |                 | $\neg$       | 1        | $\top$        |
|          | 24       |          |          |          |          | T        | 1         | ┪      | 十            | ヿ        |           |      |      | 74           | $\Box$   |          |          | T                 |               | $\top$   |                   |       |        | 124      | _             | _         |  |                 |              |          | $\dashv$      |
|          | 25       | 1        |          |          | Т        | T        | 1         | 十      | Ť            | 十        |           |      |      | 75           | $\Box$   | $\dashv$ | $\dashv$ | 1                 |               | $\top$   | m                 |       |        | 125      | $\top$        |           |  |                 |              | _        | $\vdash$      |
|          | 26       | $\vdash$ |          |          | T        | T        | $\top$    | $\top$ | Ť            | $\dashv$ |           |      |      | 76           | $\Box$   | _        | $\top$   |                   |               |  | H                 |       |        | 126      | $\top$        | +         | $\vdash$   | П               |              | 1        | _             |
| -        | 27       | <u> </u> |          |          | T        | 1        | T         | ╅      | 1            | $\dashv$ |           |      |      | 77           |  | $\top$   | $\top$   | 1                 |               | $\top$   | П                 |       |        | 127      | _             | $\top$    | T  |                 |              |          | $\top$        |
|          | 28       |          |          |          |          |          | $\top$    | 1      | 1            | $\top$   |           |      |      | 78           |  |          | _        |                   |               | $\top$   |                   |       |        | 128      | $\neg$        | 1         | $\vdash$   | $\Box$          |              | 7        | $\dashv$      |
|          | 29       |          |          |          | T        |          | $\top$    | 十      | $\top$       | $\dashv$ |           |      |      | 79           |  | $\neg$   | $\neg$   | $\top$            |               | ┪  | $\Box$            |       |        | 129      | 十             | 1         |  | П               |              | $\neg$   | 十             |
|          | 30       |          |          |          | T        | T        | Τ         | $\top$ | ╅            | $\top$   | $\neg$    |      |      | 80           | $\Box$   | _        | _        | $\top$            |               | $\top$   | П                 |       |        | 130      | $\dashv$      | 1         | 1  |                 |              | $\neg$   | $\neg$        |
|          | 31       |          |          |          |          | t        | $\dagger$ | 1      | $\top$       | $\dashv$ | $\neg$    |      |      | 81           | П  | $\top$   | $\top$   | $\top$            |               | $\top$   |                   |       |        | 131      | _             | 1         | T  | $\Box$          |              | 一        | $\neg$        |
|          | 32       |          |          |          | $\vdash$ | T        | T         | $\top$ | $\top$       | 十        |           |      |      | 82           | $\Box$   | 十        | _        |                   |               | 1  |                   |       |        | 132      | 十             | +-        | T  | Н               |              | 十        | 十             |
|          | 33       |          |          |          |          | Г        | Τ         | T      | $\top$       | $\top$   |           |      |      | 83           | П  | T        |          | -                 |               | $\neg$   |                   |       |        | 133      | 十             | $\top$    |  | П               | $\Box$       | 7        |               |
|          | 34       |          |          |          |          | T        | T         | +-     | 7            | 十        | $\neg$    |      |      | 84           | $\Box$   | _        | $\top$   | 1                 | $\neg$        | $\top$   | П                 |       |        | 134      | _             | $\top$    |  | $\vdash$        |              | $\dashv$ |               |
|          | 35       | <u> </u> | Т        |          | 1        | T        | 1         | 1      | $\top$       | 十        | ᅵ         |      |      | 85           |  | 十        | $\dashv$ |                   | 1             | ┪┈   | $\Box$            |       |        | 135      | _             | +         | $\vdash$   | $\Box$          | $\neg$       | 十        | $\neg$        |
|          | 36       |          | T        |          |          | T        | T         |        | +            | $\top$   | ┪         |      |      | 86           | $\Box$   | $\dashv$ | 1        | 1-1               |               | ╅  | П                 |       |        | 136      | $\top$        | 1         | t  | $\Box$          | 寸            |          | $\top$        |
|          | 37       |          | _        |          |          |          | †         | _      | 十            | 十        | ┪         |      |      | 87           |  | $\dashv$ | +        | 1                 |               | +  |                   |       |        | 137      | $\top$        | +         | †  | Н               | _            | $\neg$   | $\top$        |
|          | 38       |          |          | Г        | T        | $\vdash$ | T         | $\top$ | $^{\dagger}$ | $\top$   | ᅥ         |      | -    | 88           |  | $\dashv$ |          | $\top$            | $\vdash$      | +  |                   |       |        | 138      | $\top$        | _         | 1  |                 | $\dashv$     | $\neg$   | _             |
|          | 39       |          | $\vdash$ | Т        | П        | 1        | †         | +      | 十            | $\top$   | $\dashv$  | X.I  |      | 89           | $\vdash$   |          |          | П                 | $\vdash$      | +  | H                 |       |        | 139      | $\dashv$      | 1         | T  | $\vdash$        | $\dashv$     | $\dashv$ | +             |
|          | 40       |          | $\vdash$ | Т        | П        | $\vdash$ | T         | +      | T            | $\top$   | $\dashv$  | 1    |      | 90           | $\vdash$   | +        | _        | T                 |               | $\top$   | Н                 |       |        | 140      | $\top$        | +         | T  | Н               | $\dashv$     | $\dashv$ | $\top$        |
|          | 41       |          |          |          | Г        | T        | T         | $\top$ | +            | 十        | $\dashv$  | Ì    |      | 91           | $\sqcap$   | 十        | $\dashv$ | П                 | -             | $\top$   | П                 |       |        | 141      | $\top$        | $\top$    | $\vdash$   | М               | $\dashv$     | $\dashv$ | _             |
|          | 42       |          | Г        | _        | T        |          | $\top$    | $\top$ | $\top$       |          | $\exists$ | Ì    |      | 92           | $\sqcap$   | 十        | $\top$   | П                 | $\dashv$      | 1  | М                 |       |        | 142      | _             | 1         | T  | П               | _            | 十        | $\top$        |
|          | 43       | _        |          | Г        | T        | T        | $^{+}$    | ╅      | +            | 十        | ┪         | .    |      | 93           | $\sqcap$   | $\dashv$ | +        | Н                 | -             | +  | H                 |       |        | 143      | _             | 1         | T  | $\vdash$        | $\dashv$     | $\dashv$ | +             |
| _        | 44       |          | <u> </u> |          | 1        | T        | T         | +-     | $\dagger$    | ┪        | ヿ         |      |      | 94           | $\sqcap$   | 十        | 1        | Н                 | _             | $\top$   | $\dagger \exists$ |       |        | 144      | $\top$        | T         | $\vdash$   | ╁┯┼             | _            | $\dashv$ | ╅             |
|          | 45       |          | $\vdash$ | Г        | _        | T        | T         | 1      | $\dagger$    | 十        | ┪         |      |      | 95           | $\sqcap$   | 十        | 1        | П                 |               | $\top$   | $\vdash$          | ***   |        | 145      | $\dashv$      | †         | 1-   | $\vdash$        | 寸            | $\dashv$ | +             |
| $\dashv$ | 46       | _        | ┢        | Η-       | 1        | 1        | t         | +      | $\dagger$    | +        | $\dashv$  |      |      | 96           | $\vdash$   | $\dashv$ | _        | $\dagger \exists$ |               | +  | Н                 | - : } |        | 146      | $\dashv$      | +         | <del>                                     </del> | $\vdash$        | 十            | $\dashv$ | +             |
|          | 47       | _        | $\vdash$ | $\vdash$ | ✝        |          | T         | $\top$ | $\dagger$    | $\top$   | $\dashv$  |      |      | 97           | $\vdash$   | +        | +        | Н                 | -1-           | +  | Н                 |       |        | 147      | $\dashv$      | $\dagger$ | $\vdash$   | $\vdash$        | $\dashv$     | $\dashv$ | +             |
|          | 48       | _        | 1        | $\vdash$ | $\vdash$ | $\vdash$ | T         | ╅      | 十            | $\top$   | ┪         | Ì    |      | 98           | $\vdash$   | $\dashv$ | $\top$   | Н                 |               | +  | H                 |       |        | 148      | $\dashv$      | $\top$    | $\vdash$   | Н               | $\dashv$     | $\dashv$ | +             |
| _        | 49       | _        |          | _        | $\vdash$ | 1        | T         | +      | $\dagger$    | +        | $\dashv$  | ŀ    |      | 99           | $\vdash$   | +        | +        | Н                 | $\dashv$      | +-   | Н                 | ,     |        | 149      | +             | +         | <del>                                     </del> | H               | $\dashv$     | $\dashv$ | +             |
|          | 50       | _        | _        | _        | $\vdash$ | 1        | +-        | +      | +            | ╅        | $\dashv$  | ٠.   |      | 100          | $\vdash$   | $\dashv$ |          | 1 1               | $\dashv$      | +  | $\vdash$          |       | $\neg$ | 150      | +             | +         | -  | $\vdash \vdash$ | $\dashv$     | 十        | -             |